

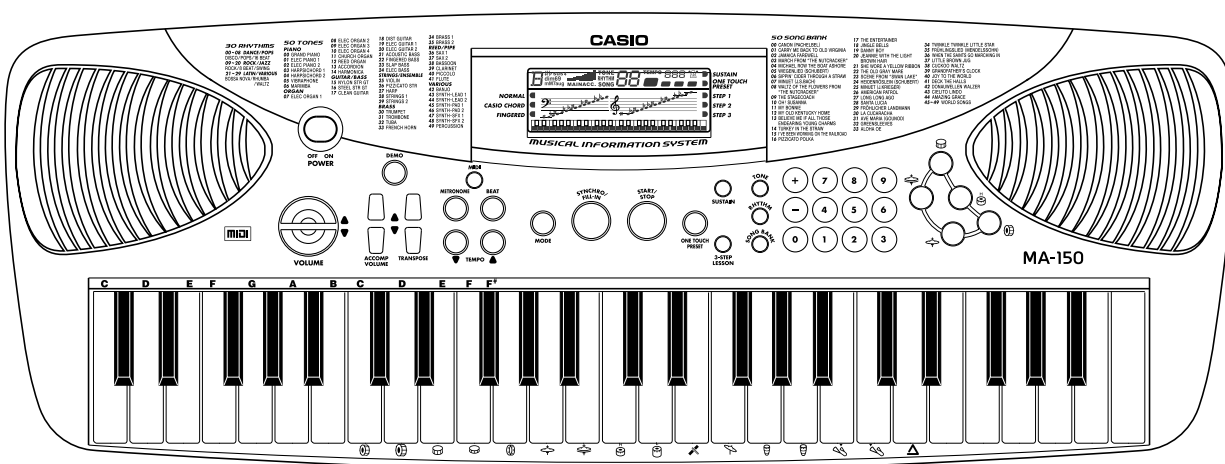
CASIO®

Service Manual

(without price)

MA-150

JULY. 2002



MA-150

ELECTRONIC KEYBOARD

Ver.2 : Oct. 2011

CONTENTS

Specifications 1

Block Diagram 2

Circuit Description 3

Printed Circuit Boards 4

Schematic Diagrams 7

Exploded View 12

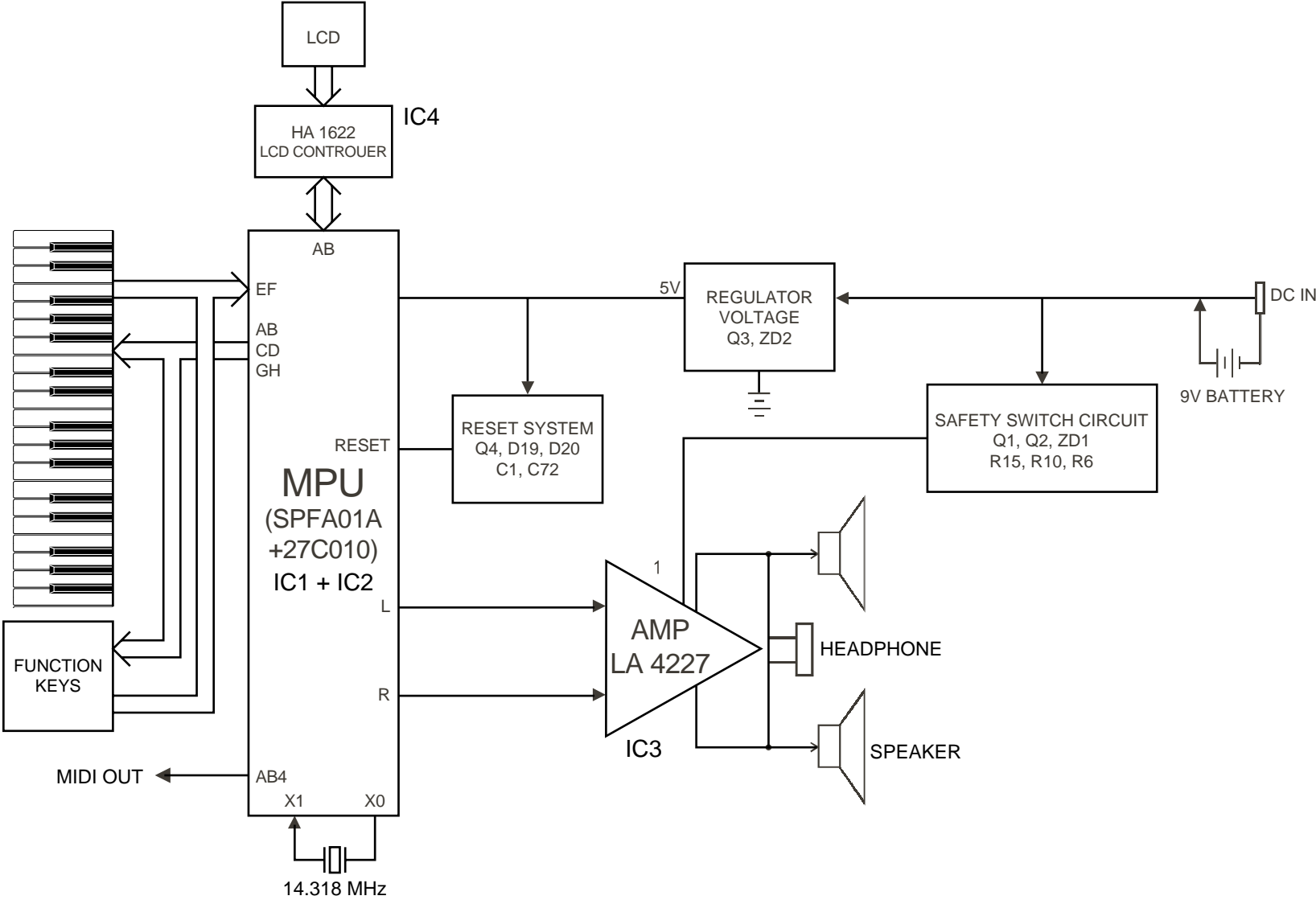
Parts List 13

SPECIFICATIONS

GENERAL

Number of Keys:	49 (mini-size)
Maximum Polyphony:	8 notes
Number of Tones:	50
Auto Accompaniment	
Rhythm Patterns:	30
Tempo:	Variable (201 steps, ♩ = 40 to 240)
Chords:	2 fingering methods (CASIO CHORD, FINGERED)
Rhythm Controller:	SYNCHRO/FILL-IN, START/STOP
Accomp Volume:	0 to 10 (11 steps)
Number of Song Bank Tunes:	50
Percussion Pads:	5
Main Volume:	0 to 10 (11 steps)
Other Functions:	3-Step Lesson; One-Touch Preset; Metronome; Transpose; Sustain; Demo tunes play
MIDI:	MIDI channel setting (01 through 16)
Speakers:	8 cm diameter × 2 (Output: 3W + 3W)
Power Requirements:	2-way
Batteries:	C-size batteries × 6
Battery life:	Approximately 5 hours on manganese batteries
AC adaptor:	AD-5
Input/Output	
MIDI Terminals:	OUT
Power Jack:	9V DC
Headphone/Output Jack:	Stereo mini jack
	Output Impedance: 100 Ω
	Output Voltage: 1.5V (RMS) MAX
Power Consumption:	9V ≐ 3.8W
Dimensions:	66.7 × 25.0 × 7.6 cm (26 ¹ / ₄ × 9 ⁷ / ₈ × 3 inch)
Weight:	Approximately 2.1 kg (4.6 lbs)(without batteries)

BLOCK DIAGRAM



Please refer to the MA-150 circuit diagram sttached for detail.

CIRCUIT DESCRIPTION

KEY & BUTTON MATRIX

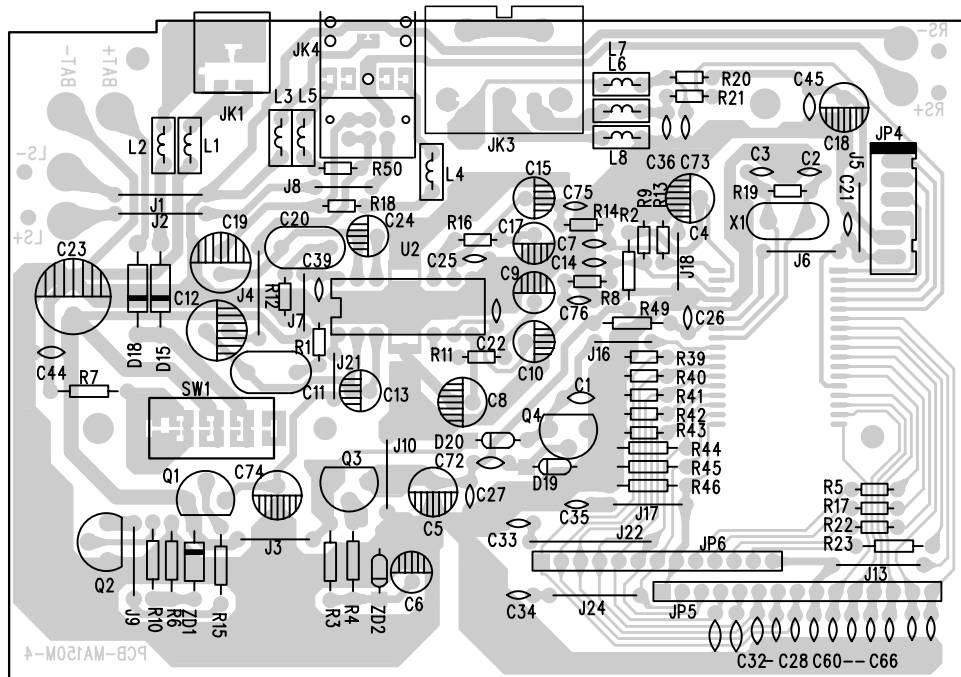
	EF0	EF1	EF2	EF3	EF4	EF5	EF6	EF7
GH0	C2	C#2	D2	D#2	E2	F2	F#2	G2
GH1	G#2	A2	A#2	B2	C3	C#3	D3	D#3
GH2	E3	F3	F#3	G3	G#3	A3	A#3	B3
GH3	C4	C#4	D4	D#4	E4	F4	F#4	G4
CD4	G#4	A4	A#4	B4	C5	C#5	D5	D#5
CD5	8	7	9	DEMO ALL	VOL+	VOL-	CHORD	+
CD6	1	PAD1	PAD2	PAD3	PAD4	PAD5	TRAN. +	TRAN. -
CD7	LEAM	METRO	BEAT	TEMPO	TEMPO+	MIDI	OTS	
AB5	E5	F5	F#5	G5	G#5	A5	A#5	B5
AB6	C6	TONE	RHYTHM	SONG	START/ STOP	ACC VOL+	ACC VOL-	SUSTAIN
AB7	SYN/ FILLIN	0	1	2	3	4	5	6

CPU (IC1: SPFA01A)

Mnemonic	PIN No.	Type	Description
VDD	53	I	Positive supply voltage
VSS	63	I	Ground input
XI	52	I	Crystal oscillator input
XO	54	O	Crystal oscillator output
RESET	51	I	Reset input
SLEEP	21	O	Sleep output
AUD1 AUD2	67 65	O	Audio output
IOEF7 - 0	62 - 55	I	Data input pins
IOAB7 - 0	16 - 9	I/O	Programmable input/output pins
IOCD3 - 2	5 - 6	I	Programmable input pins
IOCD7 - 4 OCD1 - 0	1 - 4 7 - 8	I/O	Programmable input/output pins
IOGH3 - 0	20 - 17	O	Programmable output pins
A19 - 0	31 - 50	O	External ROM address bus
D7 - 0	22 - 29	I/O	External ROM data bus
RW	30	O	R/W Signal
AVSS	64	I	ANALOG VSS
AVDD	66	I	ANALOG VDD

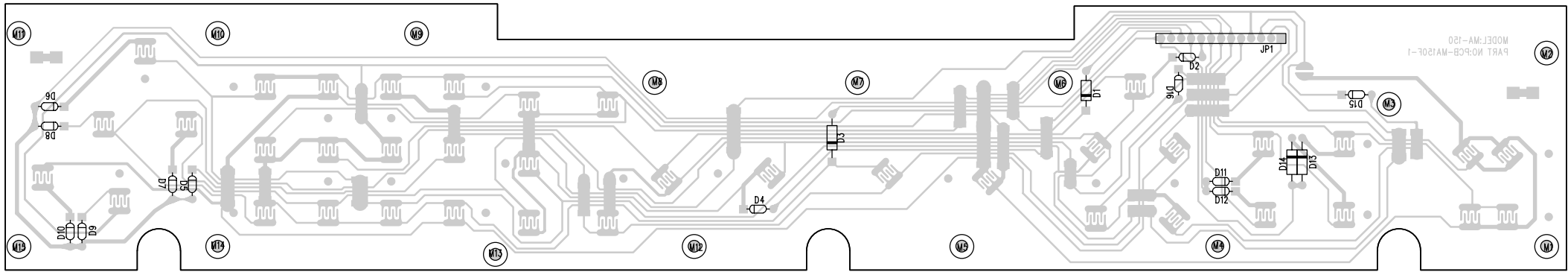
PRINTED CIRCUIT BOARDS

Main PCB

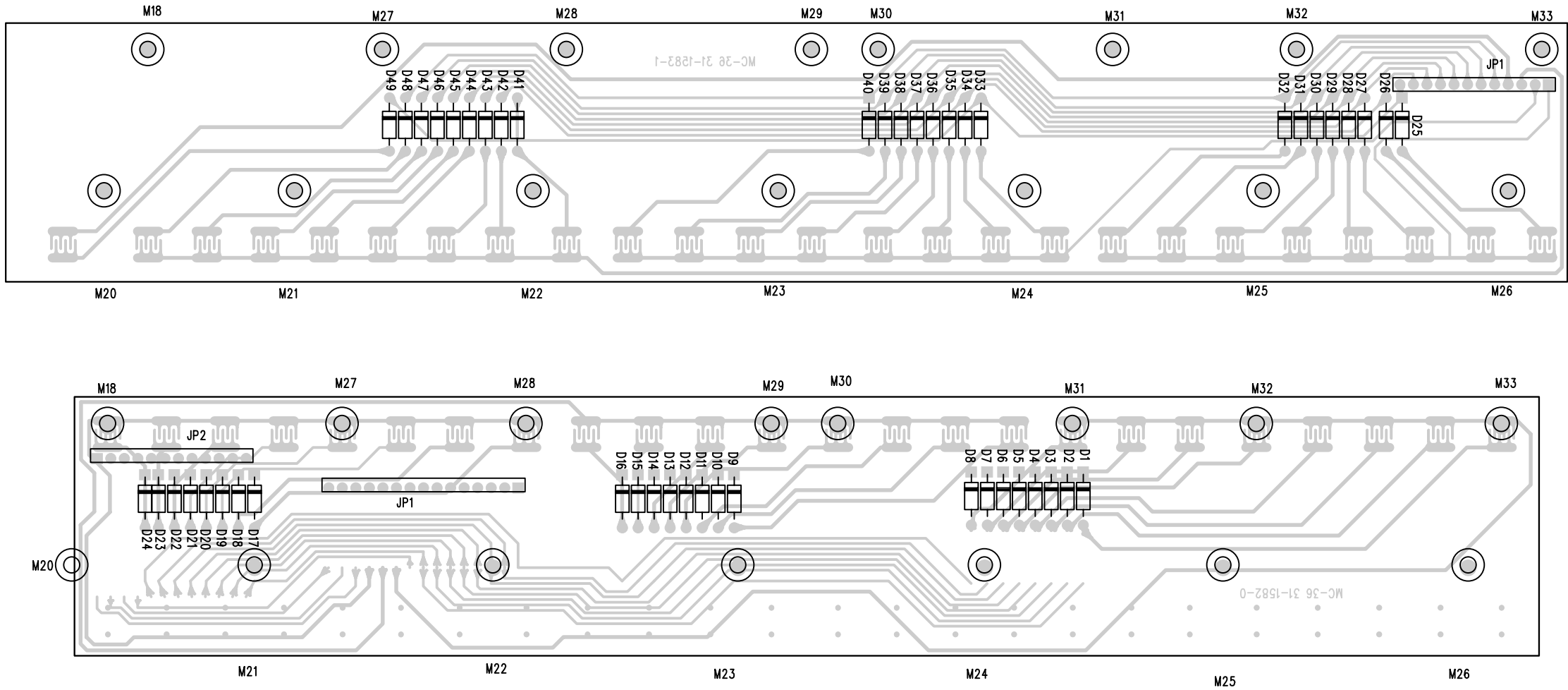


PRINTED CIRCUIT BOARDS

Console PCB

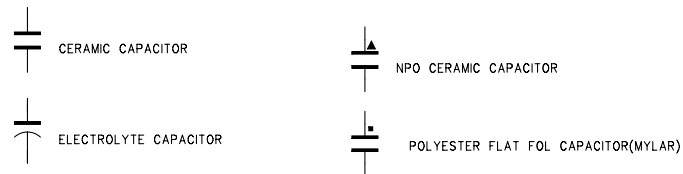
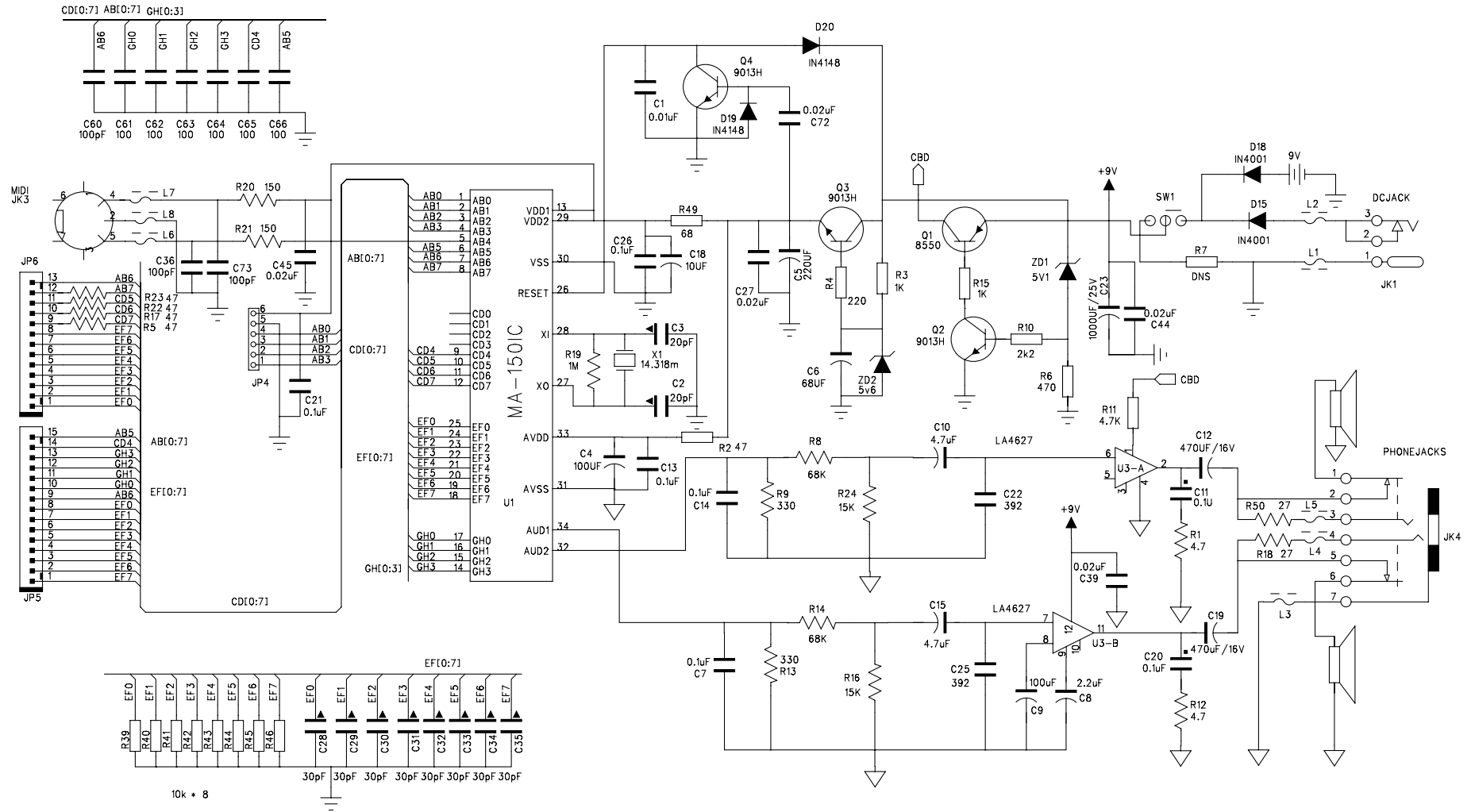


Keyboard PCB

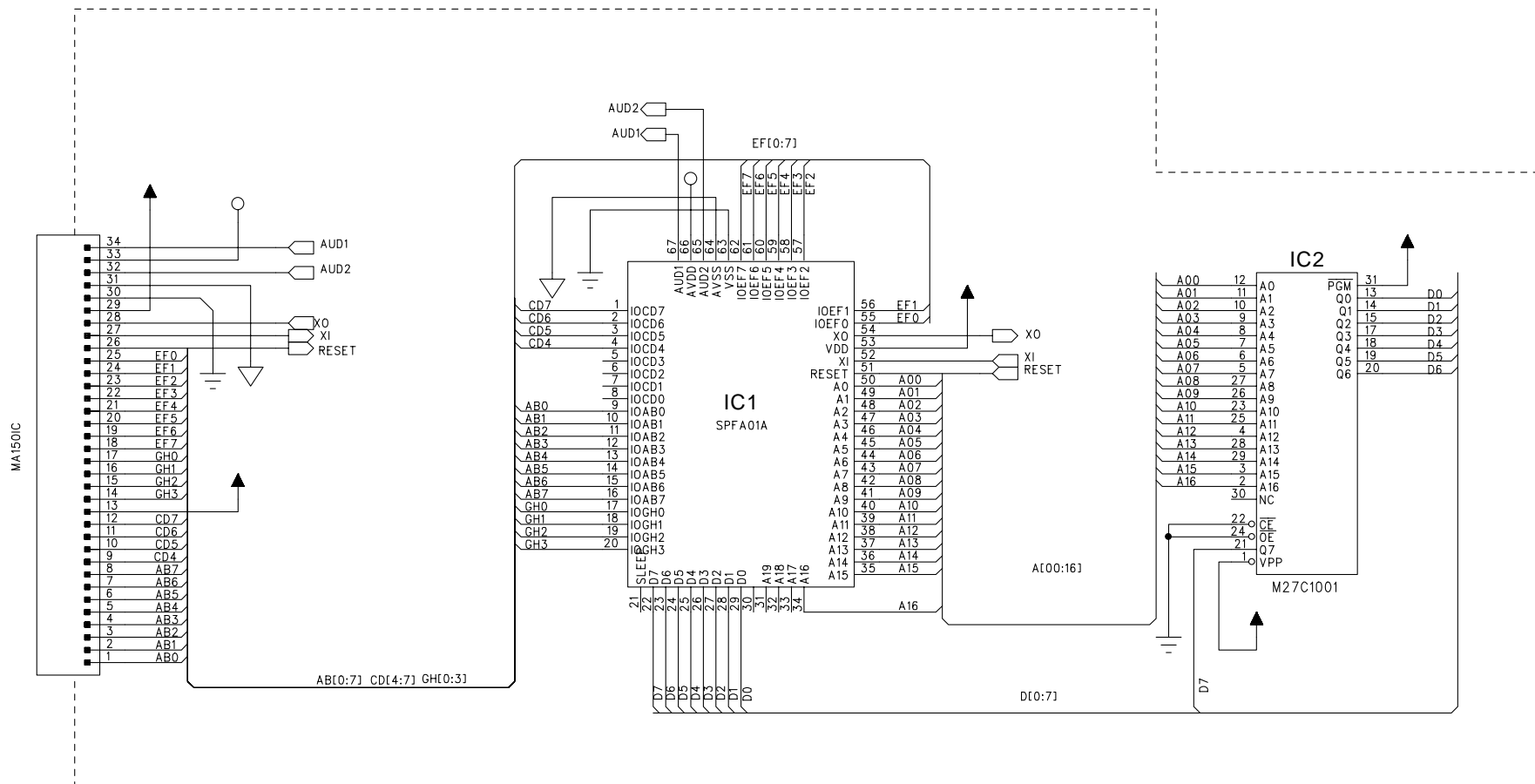


SCHEMATIC DIAGRAMS

Main PCB

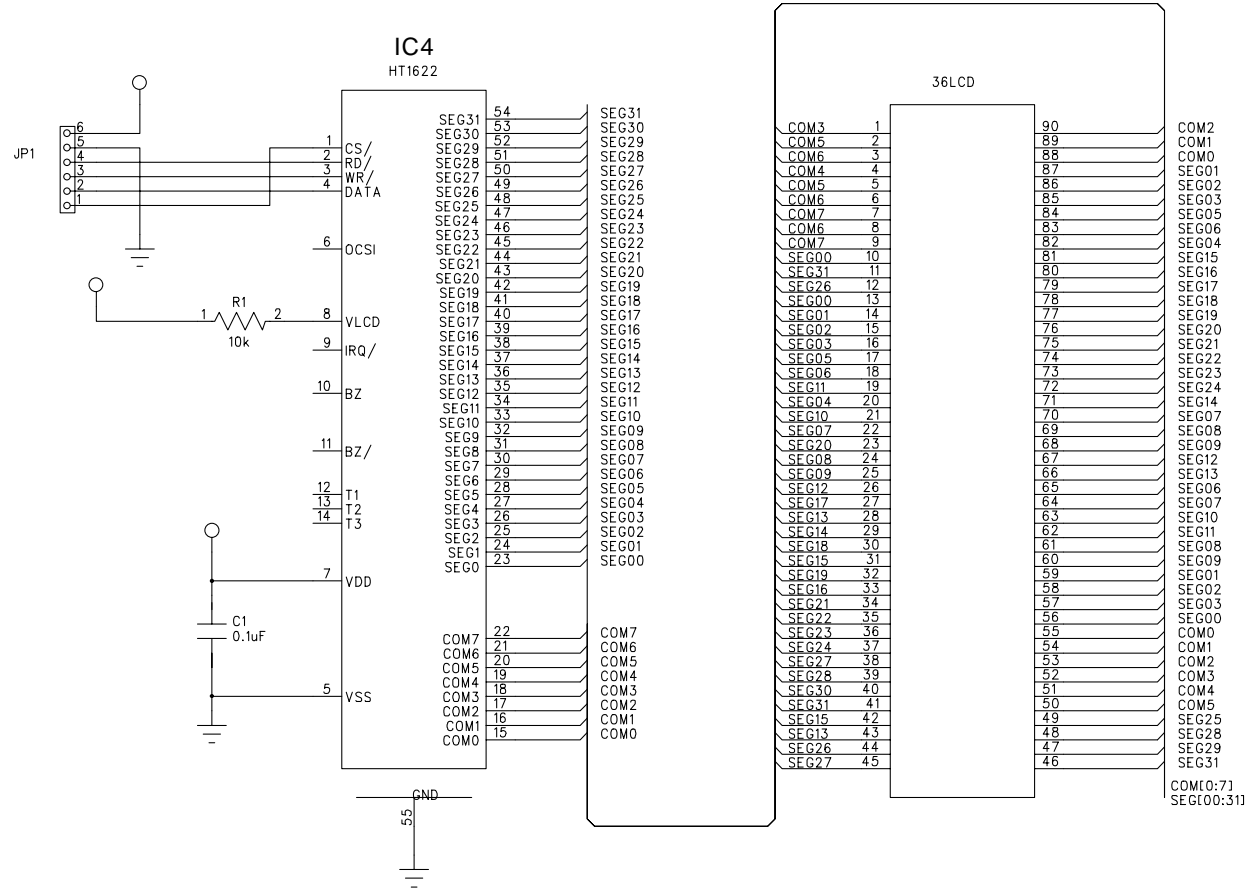


Main PCB

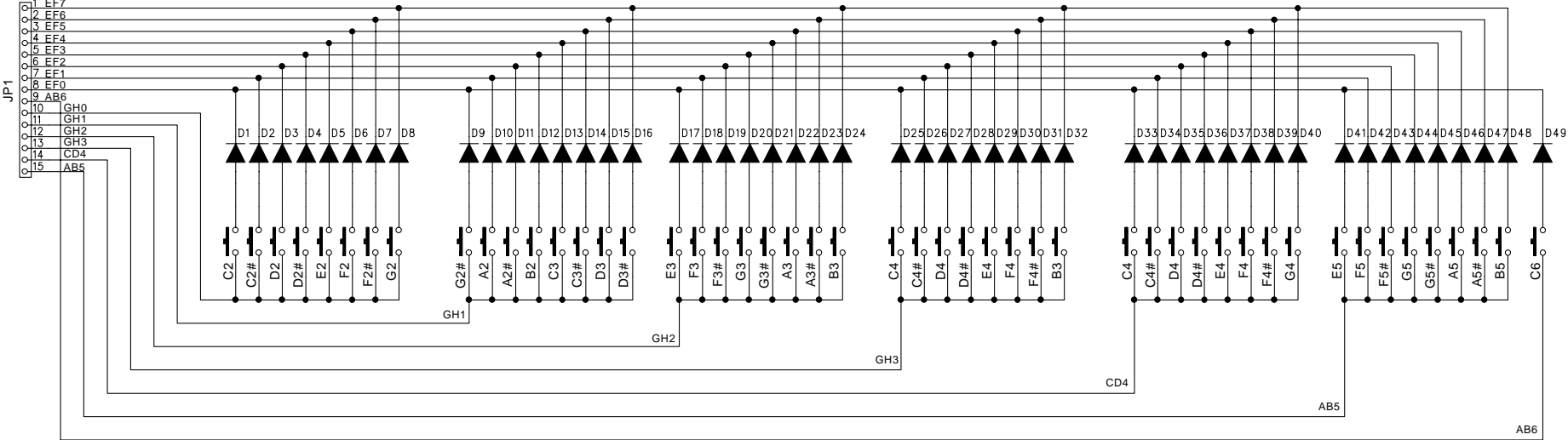


PART NO:PCB-MA150-2

LCD PCB

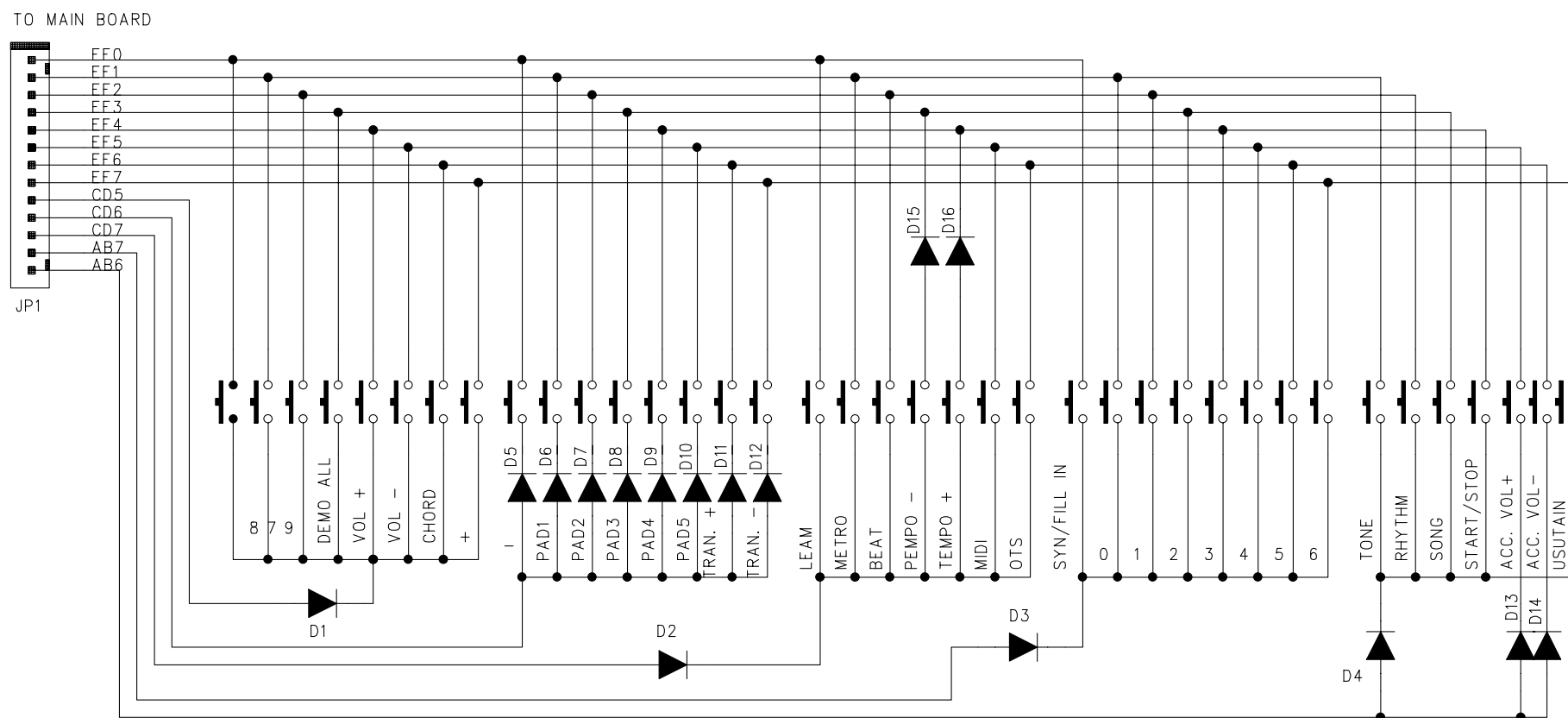


Keyboard PCB

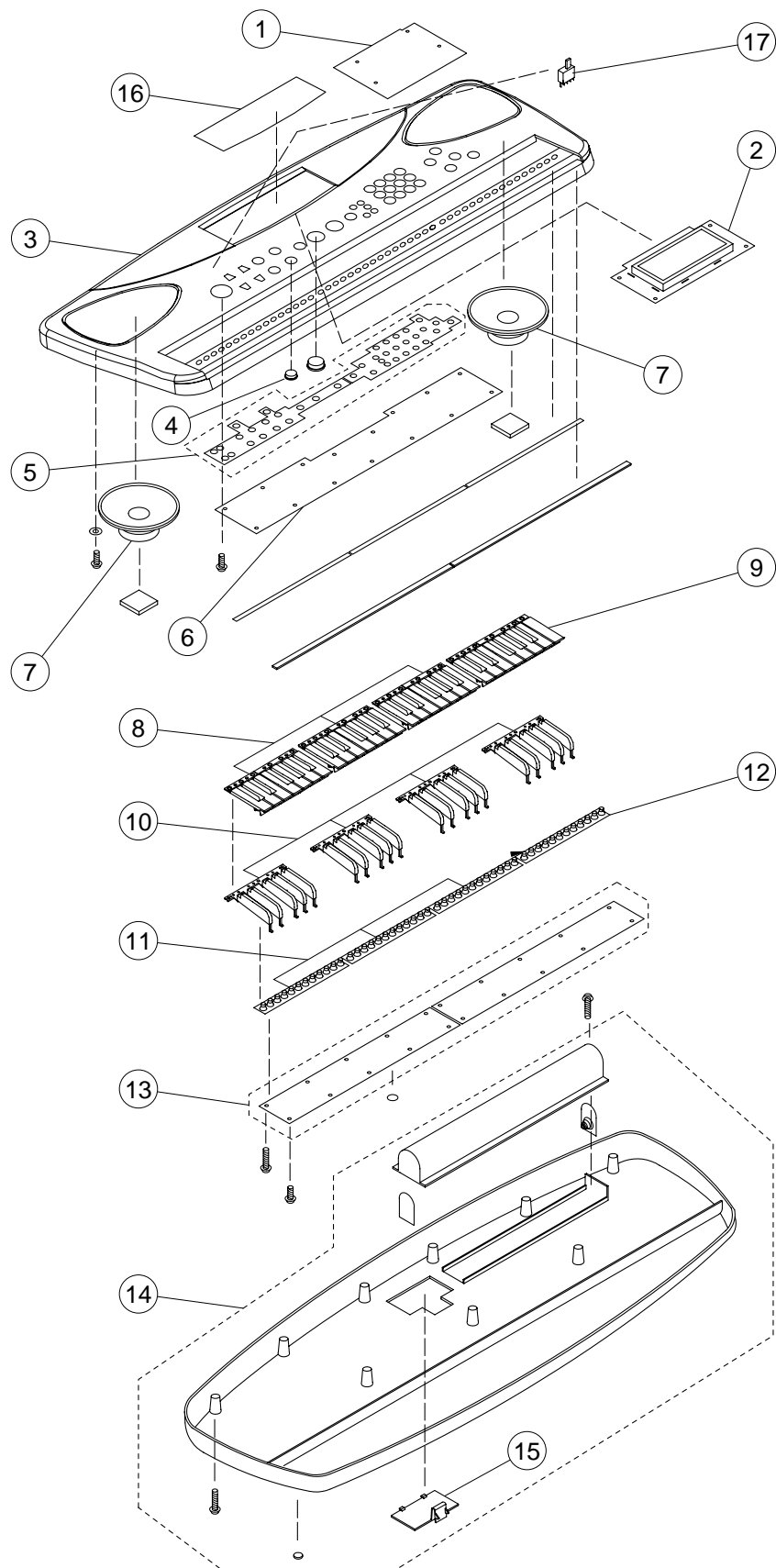


PART IN4841*49
PCB 31-1582-0 & 31-1583-1

Console PCB



EXPLODED VIEW



PARTS LIST

MA-150

Notes: This parts list does not include the cosmetic parts, which parts are marked with item No. "R-X" in the exploded view.

Contact our spare parts department if you need these parts for refurbish.

1. Prices and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.

PARTS PRICE LIST

MA-150

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
N	1	1009 8035	PCB/ASSY (MAIN)	MA-150 (M.B.)	1	CI	A
N	2	1009 8034	LCD/ASSY	MA-150(LCD B.)	1	BV	B
N	3	1009 8039	CASE/UPPER	PLT-0455/MA150(E)	1	AL	X
N	4	1009 7643	PUSH BUTTON	PLT-0454/9	1 SET	AJ	C
N	5	1009 8030	RUBBER/CONTACT (F.B.)	CON-MA150	1	AM	B
N	6	1009 8032	PCB/ASSY (FUNCTION B)	MA-150(F.B.)	1	AZ	B
N	7	1009 8042	SPEAKER	SPK-0031	2	AQ	B
N	8	1009 7641	KEY SET/WHITE	PLT-0074	3	AH	B
N	9	1009 7642	KEY SET/WHITE +C	PLT-0075	1	AH	B
N	10	1009 7640	KEY SET/BLACK	PLT-0073	4	AF	B
N	11	1009 8028	RUBBER/CONTACT (12KEYS)	CON-001	3	AF	A
N	12	1009 8029	RUBBER/CONTACT (13KEYS)	CON-004	1	AF	A
N	13	1009 8033	PCB/ASSY (KEYBOARD B)	MA-150(K.B.)	1 SET	BD	B
N	14	1009 8040	CASE/LOWER	PLT-0456/MA150	1	AH	X
	15	1007 4179	COVER/BATTERY	PLT-0069	1	AB	C
N	16	1009 8041	PLATE/DISPLAY	PVC-MA150(E)	1	AL	C
N	17	1009 7646	SWITCH/POWER	SW-SS22F20GM11	1	AA	B

Notes: Q - Quantity per unit

R - Rank

Ver.1 : Mar. 2004

Replacement of the PARTS LIST (P14)

Ver.2 : Oct. 2011

Replacement of the SCHEMATIC DIAGRAMS (P7)

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